

(Left Hand)

BA

Work Order ID 67052



Page 1

Friday, March 04, 2011 11:47:36 AM

Item ID: D205-634-041

Accept



Setup Start



Revision ID:

Stop



Item Name: Replacement Skidtube

Start Date: 3/4/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 3/23/2011 Req'd Qty: 1.00

Customer:

Reference: CUSTOM

Approvals:

Process Plan:

Date: 11-03-4

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run Start



Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr

Revision Nbr

D2580

Rev.D DEO-D1

100

0.00



DOCUMENT CONTROL

DC

Memo

0.00

Document Control

Photocopy D205-634 bluefile & type labels per PPP D205-634-041 CHG003

002
for -011 CHG 002

8/11/11

(keep two labels on Box)

D412-673-011 CHG 00

11/11-05-4

110

0.00



BENDING MACHINE - SKIDTUBES

CNC Bend 1

Memo

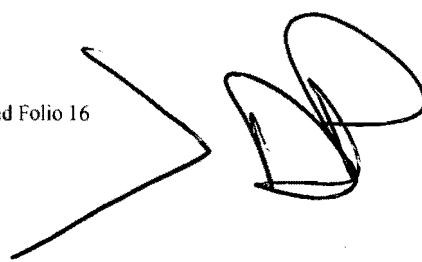
0.00

CNC Delta 100 Bender

1-Bend as per program D2580.C on CNC Bender and Folio 16

2-Cut tubes as per Dwg. D2580

3- scribe batch# in aft end of tube



11-3-31

67052

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

120

0.00



Skidtubes

Memo

0.00

Skidtubes

1- Deburr ends and remove bending marks

2- Prepare tube for swaging as per QSI 002



11-4-1

130

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

1 8 Ben/04/01

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Stop



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

140

0.00



Skidtubes

Memo

0.00

Skidtubes

1-Weld step D2576 as per Dwg. D2580 and QSI 004

A/R □ □ □ Aluminum Rod

M116577

2-Grind welds on step as per Dwg D2580

BE 11/04/20

3-Insert D4202-1 spacer, swage as per QSI002 and trim/ grind flush per QSI002 and dwg. Hold x-bolt with DT9701 Use tube expander 1/2 x 17G to start expansion and finish with 1/2 x 18G to achieve dwg dimension.

WELDED

A/R, M116577

BE 11/04/20

4-Drill holes for wearplates using DT 8217 & DT8937 Open holes to 19/64", adjust stopper not to hit web. Debur

BE 11/04/13

6-Drill pilot holes for aft cap using DT 8215 Open holes to 0.208". Debur

BE 11/04/13

7-Drill pilot holes for Tow ring using DT8091, open to .640" and Debur

BE 11/04/20

150

QC10- Inspect visual per QSI004- ground welds

0.00



QC

Memo

0.00

Quality Control

S 11/04/26

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Cust Item ID:

Required Date: 3/23/2011 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160 QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00 0.00							
170 HandFinish Hand Finishing	Pressure Wash per QSI005 4.3 Memo Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch and leave fwd cap out of solution.	0.00 0.00				1		BR 11-4-26.	
180 Powdercoat Powder Coating	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum Memo START TIME: 10:10 OVEN TEMPERATURE: 350° FINISH TIME: 10:40.	0.00 0.00				1		BR 11-4-27.	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Customer:

Reference:

Run Start



Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Stop



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

190

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

1 ϕ 22 11/04/28

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

200

0.00



HandFinish

Memo

0.00

Hand Finishing

✓ 1-Install inserts & wearplates & Gaskets as per Dwg. D2580. Use a drop of Sikaflex on insert holes before installing wearplates
A/R ☐ ☐ ☐ Sikaflex-291 ☐ 11/11/6945
Sikaflex expire date: 12/01

✓ 2-Coat D2594-3 O' rings with Petroleum Jelly and install on D2594-1 plugs as per Dwg D2580

✓ 3-Inspect for foreign object per QSI 024

✓ 4-Install 2855 Aft Cap as per Dwg D2580 and seal Fwd Step & Aft Cap with Sikaflex. Clean excess adhesive
A/R ☐ ☐ ☐ Sikaflex-291 ☐ 11/11/6945
Sikaflex expire date: 12/01

✓ 5-Wing Walk as per Dwg D2580 and QSI 005 4.4
Batch: 11/17315

1 of 22 2/05/02

W/O:		WORK ORDER CHANGES					
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Customer:

Reference:

Run Start



Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Stop



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

210

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

Inspect Aft Cap, Fwd Step and Wing Walk of work to Current Step Inspect for Foreign objects per QSI 024

Handwritten: 11 05 02 ⑪

Handwritten: Pto →

220

Packaging

0.00



Packaging

Memo

0.00

Packaging

Identify and pack for shipping as per PPPD205-634-041

Location: _____

PPP Rev: _____

Handwritten: used on w/o

Handwritten: D205-634-041

Handwritten: B

Handwritten: 11/5/4 ⑪

230

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

Handwritten: 11-05-04

W/O: 67052		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
11/05/03	220	Holes were Drilled in this step skid tube for electric Step. Work done on customer order per I11 D412-673 D412-673-011 B# 34704 CHG 67052	<i>[Signature]</i>	11/05/03		<i>[Signature]</i> 11.05.03 DS/042	<i>[Signature]</i> 11/05/04

Part No: D205-634-041 PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Picklist Print

Friday, March 04, 2011 11:47:43 AM

Page 1

Work Order ID: 67052

Parent Item: D205-634-041

Parent Item Name: Replacement Skidtube



Start Date: 3/4/2011

Required Date: 3/23/2011

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:N 02.08.28 FP was QC5 in Step 27; Added QC5 to Step 30
 KJ IPP Rev P 10.02.19
 per PAR09-043 EC verified by:DD
 IPP Rev. O 06.02.28 Added paperwork EC
 IPP Rev:P 07-07-09 SS Wearplates & Gaskets JLM IPP Rev:Q
 10.12.01 as per chg003 DD ver:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D4202-1

Manufactured No

140

Each

240.0000

20

20



Spacer

D2579

Location

Loc Qty

Loc Code

LG

240

65529

26

66121

214

D2580-1

Manufactured No

110

Each

11.0000

1

1



205 Skidtube bent detail

Location

Loc Qty

Loc Code

LG

11

59856

1

65509

5

65510

4

65511

1

D2576-3

Manufactured No

140

Each

40.0000

1

1



Step (maching detail)

Location

Loc Qty

Loc Code

LG

40

52215

40

B 62400 11-3-31

11-3-31

B 11/04/01

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Picklist Print

Friday, March 04, 2011 11:47:43 AM

Page 2

Work Order ID: 67052

Parent Item: D205-634-041

Parent Item Name: Replacement Skidtube

Start Date: 3/4/2011

Required Date: 3/23/2011

Start Qty: 1.00

Required Qty: 1.00

D2855

Manufactured

No

200

Each

88.0000

1

1



Cap



11/05/02

Location

Loc Qty

Loc Code

FP6

1

56613

1

fp7

15

65519

15

ST024

72

50513

1

50770

28

51539

2

53791

6

65569

35

11

AN3-5A

Purchased

No

200

Each

705.0000

2

2



Bolt



11/05/02

Location

Loc Qty

Loc Code

ST350

705

115016

39

115371

500

116632

166

12

AN960JD10L

NAS1149D0332J

Purchased

No

200

Each

4.0000

2

2



Washer



11/05/02

Location

Loc Qty

Loc Code

ST335

4

11912

4

1117291

12

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Shop Packet Print

Page 2

W/O:		WORK ORDER CHANGES					
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Friday, March 04, 2011 11:47:44 AM

Page 3

Work Order ID: 67052

Parent Item: D205-634-041

Parent Item Name: Replacement Skidtube

Start Date: 3/4/2011

Required Date: 3/23/2011

Start Qty: 1.00

Required Qty: 1.00

ALS7-1032-130

Purchased

No

200

Each

1,604.000

50

50



Insert



HL 11/05/02

Location

Loc Qty

Loc Code

FP

21

1117331

150

115079

21

ST282

1583

111529

32

113238

17

115502

500

115581

34

116800

1000

AN3C4A

Purchased

No

200

Each

2,476.000

50

50



BOLT



HL 11/05/02

Location

Loc Qty

Loc Code

ST350

2476

115300

25

116075

337

116704

414

116924

1200

117010

500

150

AN960C10L

NAS1149C0332

Purchased

No

200

Each

61.0000

50

50



washer



HL 11/05/02

Location

Loc Qty

Loc Code

ST245

61

107534

59

108246

2

1117291

150

Friday, March 04, 2011 11:47:44 AM

Shop Packet Print

Page 3

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Parent Item Name: Replacement Skidtube

Start Date: 3/4/2011

Required Date: 3/23/2011

Start Qty: 1.00

Required Qty: 1.00

D3566-13

Manufactured No

200 Each

61.0000 1 1



Gasket



u105/02

Location

Loc Qty

Loc Code

FP011

36

66550

36

FP014

25

64070

8

66137

17

u

x1

D3566-5

Manufactured No

200 Each

40.0000 1 1



Gasket



u105/02

Location

Loc Qty

Loc Code

FP015

40

63574

1

65528

13

66146

6

66552

20

1367589

x1

D3566-1

Manufactured No

200 Each

62.0000 2 2



Gasket



u105/02

Location

Loc Qty

Loc Code

FP

20

66548

20

FP011

19

65525

19

FP015

23

57715

1

66040

20

66129

2

1368344

x2

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Parent Item: D205-634-041



Parent Item Name: Replacement Skidtube

Start Date: 3/4/2011

Required Date: 3/23/2011

Start Qty: 1.00

Required Qty: 1.00

D3564-11 Manufactured No

200 Each

19.0000

1

1



Wearshoe



XL 11/05/02

Location

Loc Qty

Loc Code

FP019

19

1358350

XL

65159

5

66554

14

D3564-13 Manufactured No

200 Each

48.0000

1

1



Wearshoe



XL 11/05/02

Location

Loc Qty

Loc Code

FP16

25

65522

7

66549

18

FP17

23

59660

1

66136

22

D3564-9 Manufactured No

200 Each

20.0000

1

1



Wearshoe



XL 11/05/02

Location

Loc Qty

Loc Code

FP

1

55334

1

FP019

18

66153

18

FP19

1

62238

1

1367590

XL

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Start Date: 3/4/2011

Required Date: 3/23/2011

Start Qty: 1.00

Required Qty: 1.00

D3564-5

Manufactured

No

200

Each

44.0000

1

1



Wearshoe



HL 1105102

Location

Loc Qty

Loc Code

FG

1

34806

1

FP19

24

57525

1

58709

1

66551

22

FP-19

19

63575

1

65523

3

66148

15

11

D2594-3

Manufactured

No

200

Each

967.0000

16

16



O-Ring, 205 Skidtube



HL 1105102

Location

Loc Qty

Loc Code

FP

543

55546

19

58191

12

59358

12

65518

500

fpa

424

61762

424

116

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Start Date: 3/4/2011

Required Date: 3/23/2011

Start Qty: 1.00

Required Qty: 1.00

D2594-1

Manufactured No

200

Each

696.0000

16



Plug, 205 Skidtube



16
11/05/02

Location

Loc Qty

Loc Code

FP

483

B66932

x14

42807

112

55002

71

66122

300

x2

FP14

213

58434

15

65512

133

65980

65

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



DESIGN <i>[Signature]</i>	DRAWN BY <i>[Signature]</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D2580	REV. D SHEET 1 OF 3
DATE 07.02.27		TITLE 205 SKIDTUBE ASSEMBLY	SCALE NTS
A	96.09.16	NEW ISSUE	
B	96.12.02	AS MANUFACTURED	
C	98.08.26	REDRAWN, INCLUDED DEO 9094/9097	
D	07.02.27	CHANGE TO SS WEARPLATES AND GASKETS, INCLUDE DEO 9124/9183	

RELEASED
07.06.28 *[Signature]*

DEO ATTACHED

QTY -041	QTY -045	Part Number	Description
X		D2580-041	SKIDTUBE ASSEMBLY
	X	D2580-045	SKIDTUBE ASSEMBLY
1	1	D2500-1-190	EXTRUSION
1	1	D2576-3	STEP
20	24	D2579	CROSS BOLT SPACER
16	16	D2594-1	PLUG
16	16	D2594-3	O-RING
1	1	D2596	205 WEB
1	1	D2855	AFT CAP
1	1	D3564-5	WEARSHOE
1	1	D3564-9	WEARSHOE
1	1	D3564-11	WEARSHOE
1	1	D3564-13	WEARSHOE
2	2	D3566-1	GASKET
1	1	D3566-5	GASKET
1	1	D3566-13	GASKET
50	50	ALS7-1032-130 or AKS7-1032-130 or AKS4-1032-130 or AELS-1032-130	INSERT
50	50	AN3C4A	BOLT
2	2	AN3-5A	BOLT
50	50	AN960C10L	WASHER
2	2	AN960JD10L	WASHER

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 67052

pl11-03-4

GENERAL NOTES:

- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 2) ALL DIMENSIONS ARE IN INCHES
- 3) INSERT D2596 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP.
- 4) BEND AS A SMOOTH RADIUS STARTING WITH A MAXIMUM CENTERLINE RADIUS OF 60 AND ENDING WITH A MINIMUM RADIUS OF 30. A MAXIMUM REDUCTION OF 0.200 IN DIAMETER IS ALLOWABLE IN THE BENT PORTION OF THE TUBE.
- 5) USE DART DRILL TEMPLATE TD2577-205 TO LOCATE AND DRILL Ø0.297 HOLES FOR WEARSHOE INSERTS. INSTALL ALS7-1032-130 PER SECTION D-D (50 PLACES) AFTER FINISH. INSTALL AN3C4A BOLTS AND AN960C10L WASHERS WITH SIKAFLEX-241/-291.
- 6) WELDING TO BE DONE PER DART QSI 004.
- 7) FINISH:
SEE NOTES ON
PAGE 2 FOR D2580-041 AND
PAGE 3 FOR D2580-045
- 8) INSERT D2594-1 PLUG C/W D2594-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE) AFTER FINISH (16 PLACES).

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Diagram illustrating the grinding locations on a propeller cross-section. The diagram shows a cross-section of a propeller with a central hub and two main blades. The following locations are marked for grinding:

- GRIND FLUSH (4 PLACES)**: Four locations on the outer edge of the propeller.
- GRIND FLUSH**: A location on the inner edge of the propeller.
- D2576-3 STEP**: A step on the inner edge of the propeller.
- LOCATION RIDGE ON UNDERSIDE OF D2576**: A ridge on the underside of the D2576 component.
- GRIND FLUSH**: A location on the underside of the D2576 component.

RELEASED
07-06-28

DEO ATTACHED

Technical drawing of a circular base plate with the following specifications:

- DRILL PRIOR TO 02855 CAP INSTALLATION (2 PLACES)
- 60.208
- SEAL WITH SIKAFLEX-241/-291
- AN3-5A BOLT (1)
- AN960J010L WASHER (1)
- (2 PLACES)
- 02855 CAP
- 0.40

D2579 SPACER

D2596 WEB (REF)

ALS7-1032-130 (REF)
(TYP 50 PLACES)

AFTER PERFORM
1. CHA
2. INS
3. WEI
4. C'B

AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR #0.508 HOLES ONLY:

1. CHAMFER HOLE 0.050 X 45°
2. INSERT D2579 SPACER (20 PLACES)
3. WELD INTO PLACE AND GRIND FLUSH
4. C'BORE D2579 SPACER TO Ø0.437 X 1.00 DEEP

[illegible][illegible]

i) FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB POWDER COAT ASSEMBLY GLOSS WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3 BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4

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DART AEROSPACE LTD.

DESIGN 	DRAWN BY 	DART DART AEROSPACE LTD. MARKHAM, ONTARIO, CANADA	
CHECKED 	APPROVED 	DRAWING NO. D2580	REV. D SHEET 2 OF 3
DATE 07.02.27	TITLE 205 SKIDTUBE ASSEMBLY		SCALE 1:24

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

D2580-1 DRILLING DETAIL

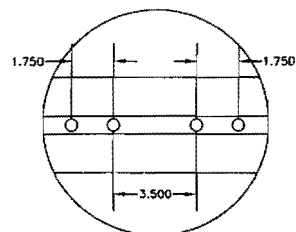


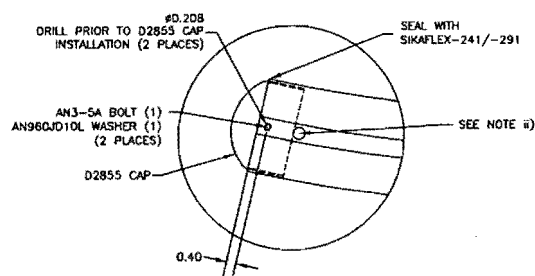
Diagram illustrating the grinding locations for the propeller cross-section. The diagram shows a cross-section of a propeller with the following labeled areas:

- GRIND FLUSH (4 PLACES)
- GRIND FLUSH
- D2576-3 STEP
- LOCATION RIDGE ON UNDERSIDE OF D2576
- GRIND FLUSH

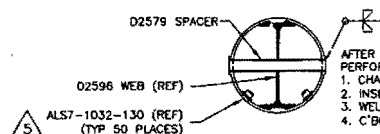
RELEASED
07-06-28

DEO ATTACHED

DETAIL G
SCALE 5:24

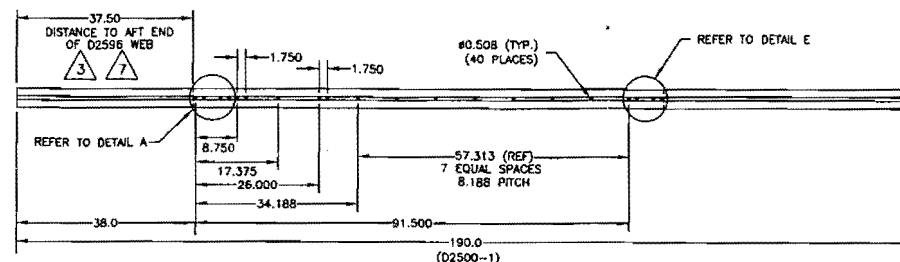


SECTION H-H
SCALE 5:24

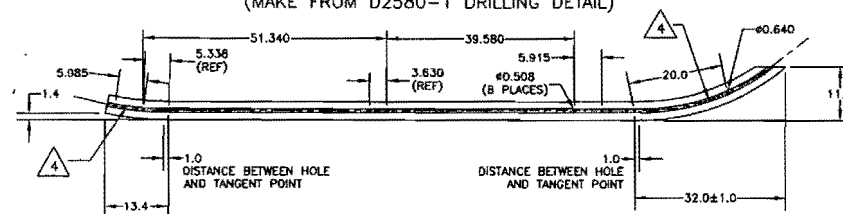


D2580-045 NOTES

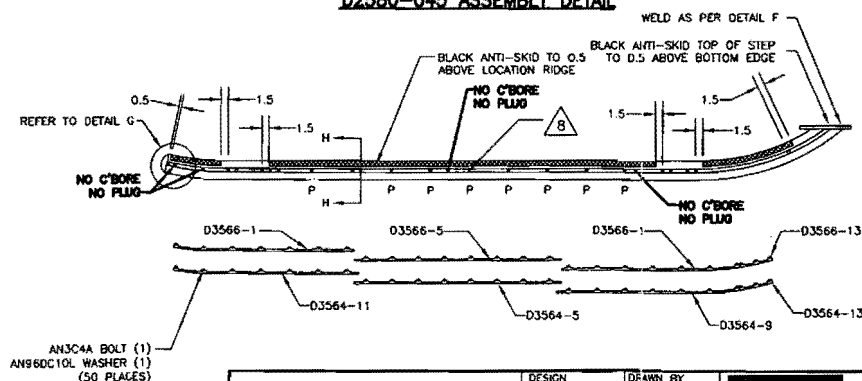
- i) FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB
POWDER COAT ENTIRE ASSEMBLY GREEN (REF. 4.3.5.8) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4
- ii) IT IS ACCEPTABLE TO GRIND A RELIEF IN THE D2855 AFT CAP TO PREVENT INTERFERENCE
WITH THE SPACER AT THIS LOCATION



D2580-5 BENDING AND CUTTING DETAIL
(MAKE FROM D2580-1 DRILLING DETAIL)



D2580-045 ASSEMBLY DETAIL



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DESIGN

100

CHECKED

CHECKED

1

DATE _____

07.03

DRAWN BY

PA

APPROVED

APPROVED

DART

DART AEROSPACE LTD.
HAMMERSBURG, ONTARIO, CANADA

DEAMING A

1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 2680, 26

DRAWING ROOM
DOES

REV. L.

02580

3 OF 2

TITLE

SCALE

205 SKIDTUBE ASSEMBLY

1.24

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DRAWING NO. D2580	TITLE 205 SKIDTUBE ASSEMBLY	REV. D	DART AEROSPACE LTD ENGINEERING ORDER		D.E.O. NO. D2580-D-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>UP</i>	CHECKED <i>L</i>	MFG. APPR. <i>E</i>	APPROVED <i>MP</i>		DE APPR. <i>H</i>		
DATE 10.09.22	DATE 10.11.04	DATE 10.11.04	DATE 10/11/04		DATE 10.11.04		

PURPOSE:

CHANGE ALL WELDED CROSSBOLT SPACERS TO SWAGED SPACERS

CHANGE:

PARTS LIST IS AMENDED AS FOLLOWS:

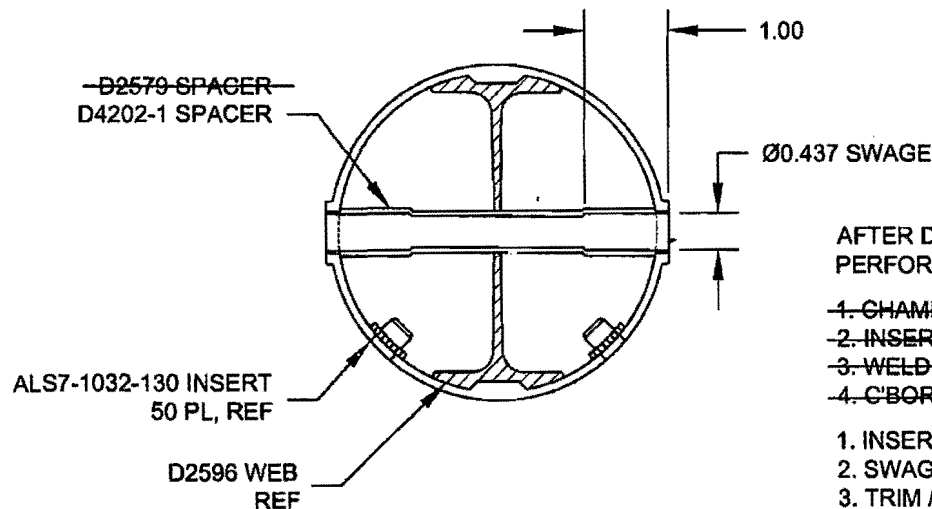
WAS

QTY	QTY	PART NUMBER	DESCRIPTION
-041	-045		
20	24	D2579	CROSS BOLT SPACER

IS

20	24	D4202-1	SPACER
----	----	---------	--------

SECTION D-D & SECTION H-H ARE AMENDED AS FOLLOWS:



SECTION D-D
NOT TO SCALE

SECTION H-H
NOT TO SCALE

RELEASED
2010-11-18
MP

AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR Ø0.508 HOLES ONLY:

1. CHAMFER HOLE 0.050 X 45°
2. INSERT D2579 SPACER (20 PLACES)
3. WELD INTO PLACE AND GRIND FLUSH
4. C'BORE D2579 SPACER TO Ø0.437 X 1.00 DEEP

1. INSERT D4202-1 SPACER, 20 PL (-041) OR 24 PL (-045)
2. SWAGE TO Ø0.437 X 1.00 DEEP PER QSI 002
3. TRIM / GRIND FLUSH PER QSI 002

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Linda Lacelle

From: dshepherd@dartaero.com
Sent: April 18, 2011 11:36 AM
To: Linda Lacelle; Mike Petsche
Cc: Bill Beckett; 'Chris Provencal'; 'Eric Charbonneau'
Subject: Re: Alum. Solution Anneal - swaging

Makes sense to me ... We don't want to get caught short ... Make sure that if we do this, they are identified with the old CHG number.

David

Sent from my BlackBerry device on the Rogers Wireless Network

From: "Linda Lacelle" <llacelle@dartaero.com>
Date: Mon, 18 Apr 2011 11:21:10 -0400
To: 'Mike Petsche' <mpetsche@dartaero.com>; <dshepherd@dartaero.com>
Cc: 'Bill Beckett' <bbeckett@dartaero.com>; 'Chris Provencal' <cprovencal@dartaero.com>; 'Eric Charbonneau' <echarbonneau@dartaero.com>
Subject: RE: Alum. Solution Anneal - swaging

I am ready to weld some ^{up}, I don't want to get into trouble with L/T's on these, any objections??
LL

From: Mike Petsche [mailto:mpetsche@dartaero.com]
Sent: April 18, 2011 10:42 AM
To: 'Linda Lacelle'; dshepherd@dartaero.com
Cc: 'Bill Beckett'; 'Chris Provencal'; 'Eric Charbonneau'
Subject: RE: Alum. Solution Anneal - swaging

Well I'm not sure what to say.

CHG ⁰⁰⁷ ~~008~~

D2579

It is my understanding that the swaging will still make sense even with the extra hoops we need to jump through.

If there is still uncertainty on the delivery of the material, we CAN still weld them if we need to.

And while this might be less than "world class", couldn't we take some of our tubing that we have in stock and zap it with the welder to knock down the temper a little? Ground clamp on one end, torch on the other.....BZZZZZZT.

(I'm only sort of joking...because I bet it would work)

From: Linda Lacelle [mailto:llacelle@dartaero.com]
Sent: April 18, 2011 9:44 AM
To: dshepherd@dartaero.com; 'Mike Petsche'
Cc: Bill Beckett; Chris Provencal; Eric Charbonneau
Subject: RE: Alum. Solution Anneal - swaging
Importance: High

So any thoughts about going fwd for now with 205's? We are down to 6, and I don't want to run out as we have orders for these for early May.

LL

From: Linda Lacelle [mailto:llacelle@dartaero.com]

Sent: April 12, 2011 8:11 AM

To: dshepherd@dartaero.com; 'Mike Petsche' (mpetsche@dartaero.com)

Cc: Bill Beckett (bbeckett@dartaero.com); Chris Provencal (cprovencal@dartaero.com); Eric Charbonneau (echarbonneau@dartaero.com)

Subject: FW: Alum. Solution Anneal - swaging

So if we send them 400 pqs of the 6061T6 tube, they can temper it to T4 for a cost of 1850.00...

LL

From: John Spencer [mailto:johns@metcor.biz]

Sent: April 12, 2011 8:04 AM

To: llacelle@dartaero.com

Subject: Alum. Solution Anneal

Linda,

Metcor could process the tubes within a few days after receiving.

Price for the lot is \$1850 including conductivity test.

Would prefer 8 inch cut to length, if not we could manage 4 " lengths .

Please let me know and contact me on my cell.

Regards,

John Spencer

Metcor Inc.

Nordcap Certified

johns@metcor.biz

514-386-1620

NO. 249

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: Barclay Elliott
Job number: 67531
Part number: D205 634 041
Description: 205
Welding Process: Tig~~[X]~~ Mig[]
Base material: Aluminum
Current: AC~~[X]~~ DC[]

TEST REQUIREMENTS AND RESULTS

Visual: pass~~[X]~~ fail[]
Penetration: pass~~[X]~~ fail[]

UNACCEPTABLE

Cracks: pass~~[X]~~ fail[]
Undercut: pass~~[X]~~ fail[]
Pin holes: pass~~[X]~~ fail[]
Overlap (cold lap): pass~~[X]~~ fail[]
Porosity (surface): pass~~[X]~~ fail[]
Coloration: pass~~[X]~~ fail[]

Qualifier Pat Gump Date of Test Coupon 11.04.25

Welder Barclay Elliott Date of Test Coupon 11.04.25

The above named individual is qualified in accordance with AWS D17.1.2001 to weld

DART AEROSPACE LTD	Work Order :	67052
D205-634-041	Description:	Disassemble
		Assemble
L/H	Approval :	
		Page 1 of 1

Step	Location	Procedure	By	Date												
1	PK	<p>Remove from Stock</p> <table border="1"> <thead> <tr> <th>Qty</th> <th>Part Number</th> <th>Description</th> <th>Batch</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>D205-634-041</td> <td>Skid tube.</td> <td>B. 67052</td> </tr> <tr> <td>1</td> <td>D412-673-011</td> <td>Electric Step Adapter</td> <td>34704</td> </tr> </tbody> </table>	Qty	Part Number	Description	Batch	1	D205-634-041	Skid tube.	B. 67052	1	D412-673-011	Electric Step Adapter	34704		11/05/02
Qty	Part Number	Description	Batch													
1	D205-634-041	Skid tube.	B. 67052													
1	D412-673-011	Electric Step Adapter	34704													
2	PK	<p>Return to Stock</p> <table border="1"> <thead> <tr> <th>Qty</th> <th>Part Number</th> <th>Description</th> <th>Batch</th> </tr> </thead> <tbody> <tr> <td>1 x</td> <td>D205-634-041</td> <td></td> <td>67052</td> </tr> <tr> <td>1 x</td> <td>D412-673-011</td> <td></td> <td>34704</td> </tr> </tbody> </table> <p>Assemble with Electric Step Adapter per ITN D412-673</p> <p>For SO 10214 for Air Methods</p>	Qty	Part Number	Description	Batch	1 x	D205-634-041		67052	1 x	D412-673-011		34704		11/05/03
Qty	Part Number	Description	Batch													
1 x	D205-634-041		67052													
1 x	D412-673-011		34704													
3		<p>Drilled Holes IAW WITH</p> <p>ITN 412-673 AND</p> <p>Drill sigs DT 8393-1 and DT 8393-2</p>		11/05/03												
4	516	<p>PC 5</p> <p>Back 14T D5396-1 B67170 at 24</p> <p>ac 4 inspect 14T</p> <p>5 kit is at CN4203 Due to D52 9356</p> <p>CLN 11-564</p>		11/05/04												
	DC	<p>Close W/O</p> <p>Inspect Level 21</p>		11/5/4												

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D205-634-041 PAR #: _____ Fault Category: Russ NCR: Yes No DQA: _____ Date: _____
 Resolution: Re work Disposition: Re work QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
11/05/03	3	Drilled pilot holes for Electric step in wrong location R.L. back of A114107		CARRY OUT INSTRUCTIONS PER DAVID HENDERSON'S EMAIL DATED MAY 03, 2011 9:56 AM. FILL HOLES WITH WELD (2) GRIND FLUSH AIR → M117456	<u>JS</u> 11/05/03 <u>JS</u> 11/05/03	<u>JS</u> 11/05/04		<u>JS</u> 11/05/04
11/05/03	3	SAND Paint in Affected Area (2 plcs)	<u>JS</u> 05/03	Re ALDOR * Touch-up Powder coat in 2 places +	<u>M/M</u> 11-05-03	<u>JS</u> 11/05/04	<u>JS</u> 05/03 06/04	<u>JS</u> 11/05/04

NOTE: Date & initial all entries

Dan Stow

From: David Shepherd <dshepherd@dartaero.com>
Sent: Tuesday, May 03, 2011 9:56 AM
To: 'Dan Stow'
Cc: 'L Lacelle'; 'Marc Bellavance'; 'Mike Petsche'; 'Eric Downing'; 'Bill Beckett'
Subject: RE: Electric Step attachment holes incorrectly drilled

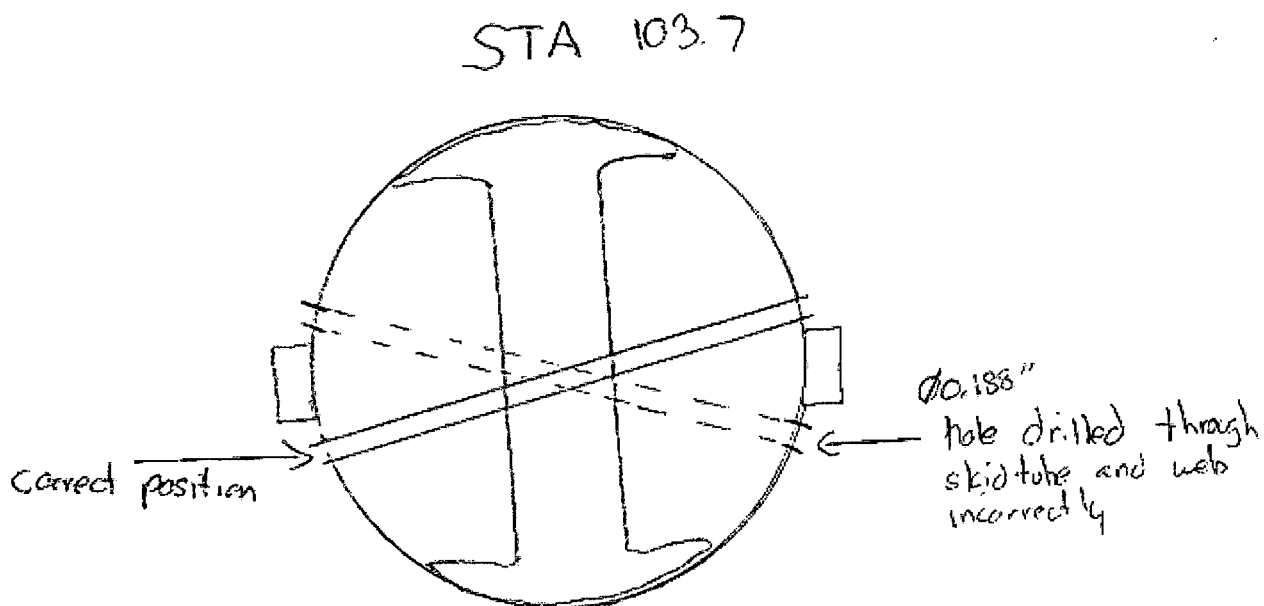
Structurally, this isn't an issue ... **HOWEVER**, this will be very visible to the customer (Air Methods), so I don't think we should do this without the customer's permission. My only suggestion would be to weld the pilot holes closed (if they haven't been opened to full size) and touch up paint.

David

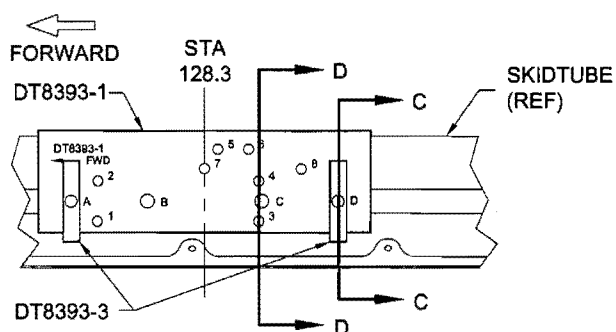
From: Dan Stow [mailto:dstow@dartaero.com]
Sent: Tuesday, May 03, 2011 6:24 AM
To: David Shepherd
Cc: L Lacelle; Marc Bellavance; 'Mike Petsche'; Eric Downing
Subject: Electric Step attachment holes incorrectly drilled
Importance: High

Hi David,

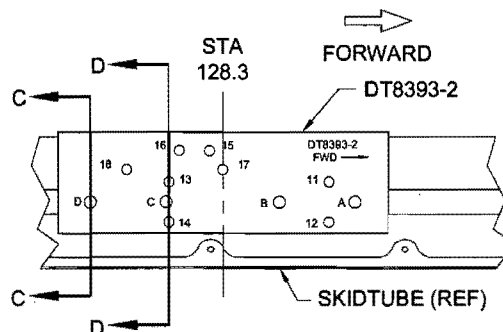
While Russ was drilling the Bell Electric Step holes per a customer's request; he drilled through the skidtube and web at the wrong location. Is it acceptable to fill the two incorrectly drilled holes with ALS7-1032-130 rivnuts, AN960C10L washers and MS27039C1-08 screws and then drill through the skidtube/web correctly?



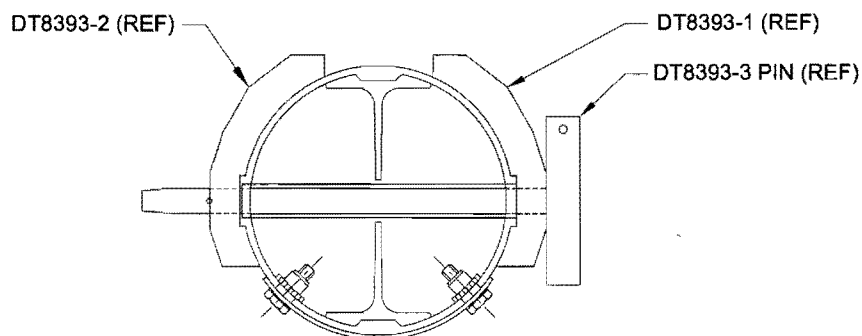
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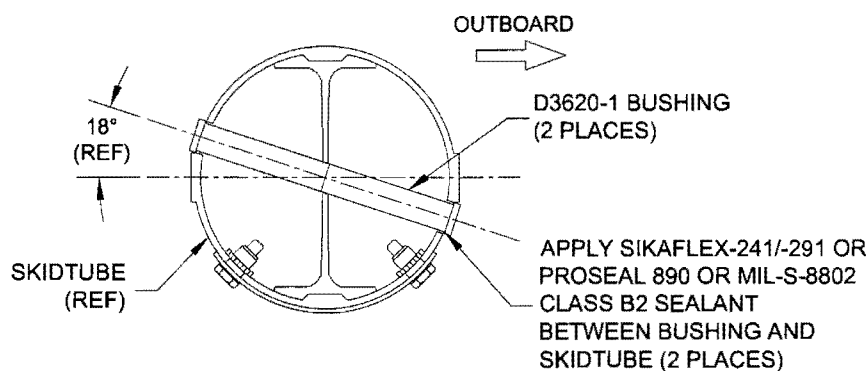
View A-A – Typical DT8393-1 Position
(See **Figure 4.1**; Tool Alignment at STA 128.3
Shown, Other STA Positions are Similar)



View B-B – Typical DT8393-2 Position
(See **Figure 4.1**; Tool Alignment at STA 128.3
Shown, Other STA Positions are Similar)

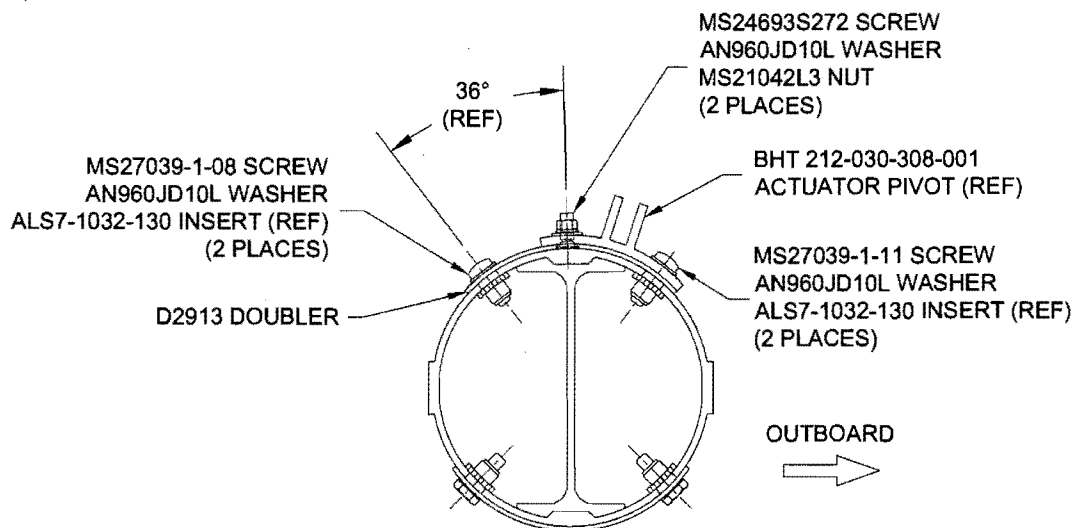


Section C-C – Typical DT8393-3 Pin Position
(See **View A-A** and **B-B**)



Section D-D – Bushing Installation
(See **View A-A** and **B-B**)

- 4.2.2 a) Install the D2913 Doubler onto the BHT 212-030-308-001 actuator pivot using MS24693 screws as shown in **Section E-E**.
- b) Install the assembly onto the skidtube using MS27039 screws as shown in **Section E-E**. Fasteners should be installed with Sikaflex-241/291 or Proseal 890 or MIL-S-8802 Class 'B2' sealant on final installation.

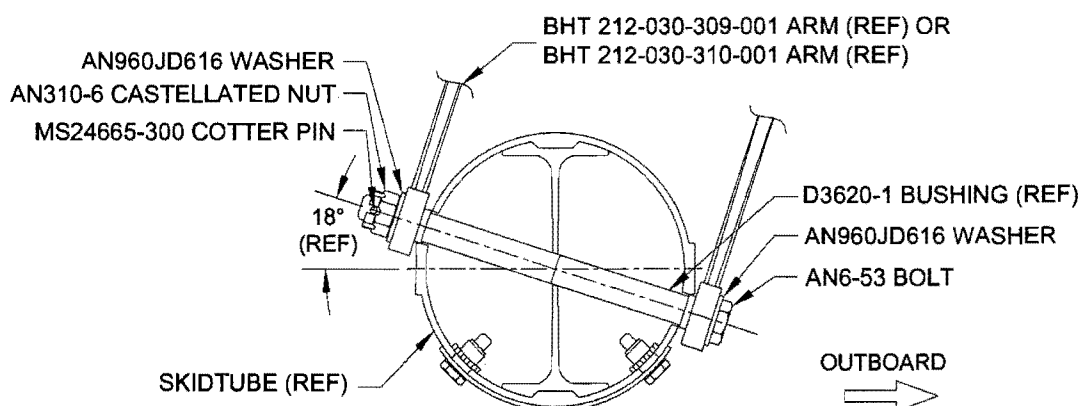


Section E-E – Doubler Installation

(See **Figure 4.1**; Approximately STA 111.9)

(LH Skidtube Installation Shown, RH Skidtube Installation Opposite)

- 4.2.3 Install the electric step arms to the skidtube as shown in **Section F-F**. Note that the step should be installed so that it is angled toward the outboard side of the skidtube as shown in **Section F-F**. Ensure all nuts are installed on the inboard side of the skidtube. It is acceptable to replace the AN6 bolts with longer or shorter AN6 bolts as required and/or install extra AN960JD616 washers under the nut to ensure proper installation of the cotter pin.

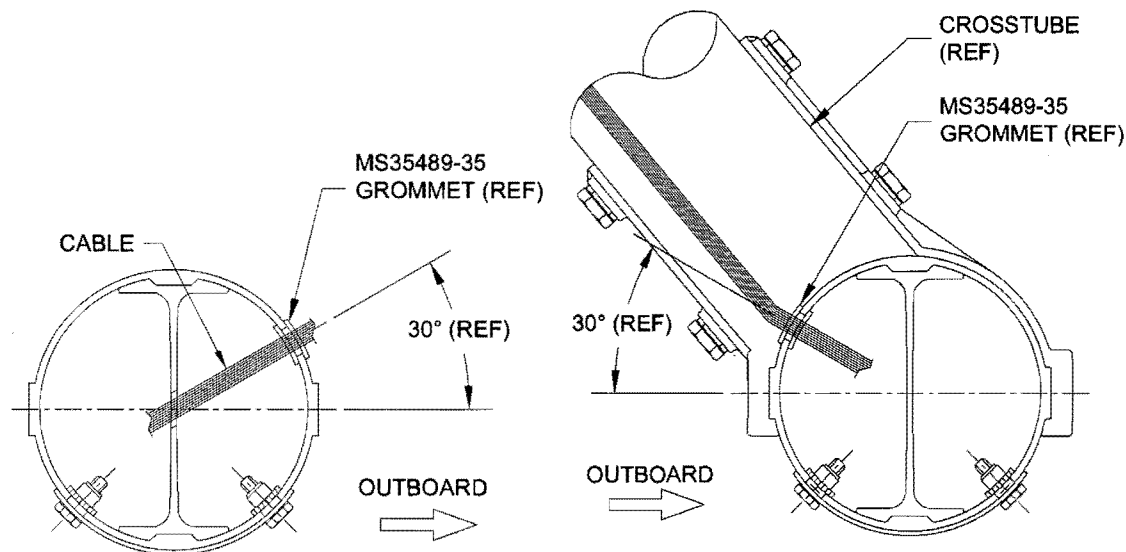


Section F-F – Electric Step Arm Installation

(See **Figure 4.1**; Approximately STA 100.4 and 130.0)

(LH Skidtube Installation Shown, RH Skidtube Installation Opposite)

- 4.2.4 Route the cabling from the step into the skidtube through the skidtube grommet at STA 114.8, through the I-beam web to the inboard side of the skidtube (refer to **Section G-G**), forward to the forward crosstube, out of the skidtube through the skidtube grommet at STA 71.5 and into the forward crosstube (refer to **Section H-H**).



Section G-G – Cable Routing Into Skidtube

(See **Figure 4.1**; Approximately STA 114.8)
(LH Skidtube Installation Shown, RH Skidtube
Installation Opposite)

Section H-H – Cable Routing Out of Skidtube

(See **Figure 4.1**; Approximately STA 71.5)
(LH Skidtube Installation Shown, RH Skidtube
Installation Opposite)

- 4.2.5 Complete the installation of the BHT Power Step Kit per the Aircraft Maintenance Manual.
- 4.2.6 Re-install the forward D2571/D2572 Saddles and D2594 Plugs onto the skidtube assembly, and re-install the skidtube assembly onto the aircraft per ICA-D205-634 (see **Figure 1.1** for the installed step).

DART SERVICE INSTRUCTION

TO AMEND INSTALLATION INSTRUCTIONS D412-673 REV. C

REF CANADIAN STC: SH96-88

REF FAA STC: SR00563NY

REF EASA STC: EASA.IM.R.S.01303

PURPOSE:

THE PURPOSE OF THIS SERVICE INSTRUCTION IS TO ADD 4X D4398-1 BUSHINGS TO THE D412-673-011 ELECTRIC STEP ADAPTATION KIT, TO ENSURE COMPATABILITY WITH THE OEM ELECTRIC STEP.

PARTS LIST CHANGE:

QTY. -011	PART NUMBER	DESCRIPTION
X	D412-673-011	Electric Step Adaptation Kit

4	D4398-1	Bushing
---	---------	---------

— ADD

PRELIMINARY ISSUE
ASS 11.05.04

CANADA
DEPARTMENT OF TRANSPORT
AIRCRAFT CERTIFICATION
BRANCH
DAO # 01-O-01

APPROVED

BY: _____
D. SHEPHERD (DE # 02)

DATE: 11.05.03
CERT. NO.: SH96-88
ISSUE NO.: 3

A	NEW ISSUE	AJS	11.05.03
REV.	DESCRIPTION	BY	DATE
DESIGN	AJS	DART AEROSPACE LTD	
DRAWN	AJS	HAWKESBURY, ONTARIO, CANADA	
CHECKED	<i>AP</i>	DRAWING NO.	REV. A
MFG. APPR.	N/A	DSI 9556	SHEET 1 OF 2
APPROVED	<i>AP</i>	TITLE	SCALE
DE APPR.		BUSHING INSTALLATION	NTS
DATE	11.05.03	COPYRIGHT © 2011 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

MODIFICATION PROCEDURE:

IT IS ACCEPTABLE TO PRESS OUT THE QTY 4 BUSHINGS LOCATED IN THE STEP ARMS (PART No. BHT 212-030-309-001 ARM OR BHT 212-030-310-001 ARM). REPLACE THE OEM BUSHINGS WITH QTY 4 D4398-1 BUSHINGS. ENSURE THAT THE SHOULDER OF THE BUSHING IS FACING OUT AS SHOWN IN FIGURE 1. AT THE INSTALLER'S DISCRETION, THE D4398-1 BUSHING MAY BE INSTALLED USING LOCTITE 601 (OR EQUIVALENT TO MIL-R-46082) APPLIED TO ALL MATING SURFACES.

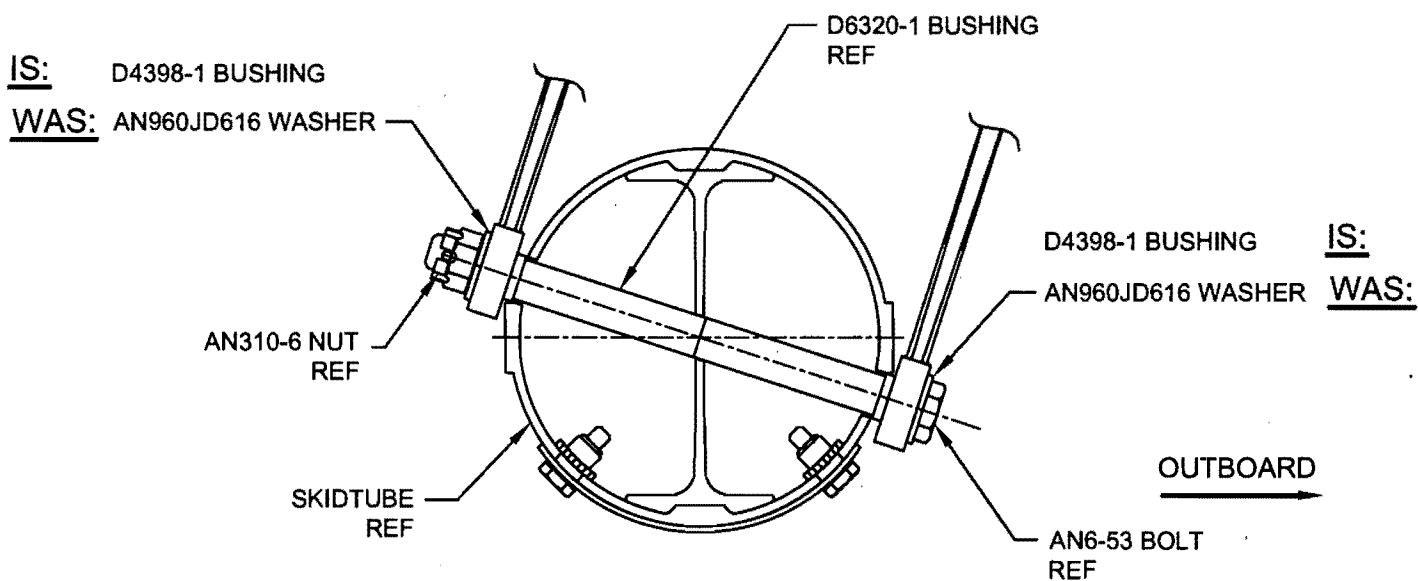


FIGURE 1: TYPICAL STEP INSTALLATION

PRELIMINARY ISSUE
AJS 11.05.04

CANADA
DEPARTMENT OF TRANSPORT
AIRCRAFT CERTIFICATION
BRANCH
DAO # 01-O-01

APPROVED

BY: _____
D. SHEPHERD (DE # 02)

DATE: 11.05.03
CERT. NO.: SH96-88
ISSUE NO.: 3

DESIGN	AJS	DART AEROSPACE LTD	
DRAWN	AJS	HAWKESBURY, ONTARIO, CANADA	
CHECKED	<i>AJS</i>	DRAWING NO.	REV. A
MFG. APPR.	N/A	DSI 9556	SHEET 2 OF 2
APPROVED	<i>AJS</i>	TITLE	SCALE
DE APPR.		BUSHING INSTALLATION	NTS
DATE	11.05.03	COPYRIGHT © 2011 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

ENGINEERING CHANGE NOTICE
DART AEROSPACE LTD

Date: 11.05.04	Job No.: ENG2108	ADR Yes/No: Y	ADR Date: 11.05.04	ECN #: 11- 563
Product No.: D205-673		Created By: AJS	Approved By: <i>[Signature]</i>	
Product Name: Electric Step Adaptation Kit		Checked By: <i>[Signature]</i>	General Manager Approval: N/A	

Distribution	Reqd	Resp	Initial / Date
Production Manager / Coord.	LL/MF		
Purchasing Coord.			
Production Engineering Coord.	JLM		

Distribution	Reqd	Resp	Initial / Date
DQA / QA Coord.			
QC Coordinator			
Customer Technical Support	MB		
Marketing	SW		
Customer Order Processing			

Reason for Change: NEW PART

Documents Affected:
D4398 Rev. A

PARTS MUST COMPLY ☒ PREVIOUS PARTS SATISFACTORY ☐

#	Quality Assurance Actions	Reqd	Resp	Notes	Complete
1	Notify Previous Customers	N			
2	Notify Eurocopter France	N			
3					

#	Engineering Actions	Reqd	Resp	Notes	Complete
4	Required Documents/Drawings Under Review	N			
5	Update Master Document List (MDL)	Y	AJS	TO BE RELEASED ON ECN 11-564	
6	Update Product Compatability Matrix	N			
7	Create Eurocopter Form (FEE)	N			
8	Notify TC / FAA of Change	N			
9					

#	Document Control Actions	Reqd	Resp	Notes	Complete
10	Move Electronic Files/Design Journal	Y	KJ		11.05.04 <i>[Signature]</i>
11	Update Product Specification Files	N			
12	Update Approved/Preliminary Dwg PDF Files	Y	KJ		11.05.04 <i>[Signature]</i>
13	Update Document Record (DR)	Y	KJ	Rev. 0	11.05.04 <i>[Signature]</i>
14	Update Product Development Summary	N			
15	Update QSI 021 and/or STC Approval List	N			
16	Update Parts / STC Database	N			
17	Update / Verify ARC Database	N			
18	Create / Update Change Record Form / Item Card Database	N			
19	Create / Update PPP's	N			
20	Red Decals required?	N			
21	Update Document Control Database / Laminated Dwgs	N			
22	Update Grey Project / Electronic Binder PDF Files	N			
23	Update D-Part/M-Drawing/DSI/DEO Master Binders	Y	KJ		11.05.04 <i>[Signature]</i>
24					

Description / Action:

Part may be shipped, parts will not be considered Airworthy until DSI 9556 is released on ECN-11-564. AJS 11.05.04

ECN Verified & Complete: _____ Date: _____

